WHAT IS CLAIMED IS:

1. A method of evaluating a potential of a haptoglobin derived polypeptide in reducing oxidation induced by oxygenized hemoglobin, the method comprising:

reacting hemoglobin with an oxidizable substrate in a presence and an absence, and/or in a presence of varying concentrations of the haptoglobin derived polypeptide; and

determining an effect of said presence and said absence, and/or said presence of said varying concentrations of the haptoglobin derived polypeptide on oxidation of said oxidizable substrate, thereby evaluating the potential of the haptoglobin derived polypeptide in reducing the oxidation induced by the hemoglobin.

2. The method of claim 1, wherein said oxidizable substrate comprises a fatty acid.

3. The method of claim 1, wherein said oxidizable substrate comprises an unsaturated fatty acid.

4. The method of ~~claim~~ 1, wherein said oxidizable substrate comprises low density lipoprotein (LDL).

5. The method of claim 1, wherein said oxidizable substrate comprises very low density lipoprotein (VLDL).

6. The method of claim 1, wherein said oxidizable substrate comprises chylomicrons.

7. The method of ~~claim~~ 1, wherein determining said effect is by monitoring at least one oxidation product of said oxidizeable substrate.

8. The method of claim 7, wherein said oxidation product comprises conjugated dienes.

9. The method of ~~claim~~ 7, wherein monitoring said at least one oxidation product of said oxidizeable substrate is effected spectrally.

10. An antioxidant compound comprising a polypeptide having an amino acid sequence derived from an alpha subunit of a haptoglobin protein sequence, said polypeptide being capable of reducing oxidation induced by oxygenized hemoglobin, the antioxidant compound being free of amino acid sequences derived from a beta subunit of a haptoglobin protein.

11. The antioxidant of claim 10, wherein said haptoglobin protein sequence is of a mammal.

12. The antioxidant of claim 11, wherein said mammal is selected from the group consisting of human, mouse, rat and dog.

13. The antioxidant of claim 11, wherein said mammal is human.

14. The antioxidant of claim 10, wherein said polypeptide has an amino acid sequence derived from a portion of an alpha subunit of a haptoglobin protein sequence, said portion being capable of reducing oxidation induced by oxygenized hemoglobin.

15. The antioxidant of claim 10, wherein said polypeptide is as set forth in SEQ ID NO:19.

16. The antioxidant of claim 10, wherein said polypeptide is as set forth in SEQ ID NO:20.

17. A pharmaceutical composition comprising, as an active ingredient, the antioxidant of claims 10-16, and a pharmaceutically acceptable carrier.

18. The pharmaceutical composition of claim 17, packaged and identified as containing an antioxidant.

19. The pharmaceutical composition of claim 17, packaged and identified for use in relieving oxidative stress.

20. The pharmaceutical composition of claim 17, packaged and identified for use in a pathology or habit associated with elevated oxidative stress.

21. The pharmaceutical composition of claim 17, wherein said pharmaceutically acceptable carrier comprises a solid support.

22. The pharmaceutical composition of claim 21, wherein said solid support is a stent.

23. The pharmaceutical composition of claim 17, wherein said pharmaceutically acceptable carrier is designed for slow release.

24. An antioxidant compound comprising a polypeptide having an amino acid sequence derived from a portion of an alpha subunit of a haptoglobin protein sequence, said polypeptide being capable of reducing oxidation induced by oxygenized hemoglobin, said polypeptide being free of remaining portions of said alpha subunit of said haptoglobin protein sequence.

25. The antioxidant of claim 24, wherein said haptoglobin protein sequence is of a mammal.

26. The antioxidant of claim 25, wherein said mammal is selected from the group consisting of human, mouse, rat and dog.

27. The antioxidant of claim 25, wherein said mammal is human.

28. The antioxidant of claim 24, wherein said polypeptide has an amino acid sequence derived from a consecutive portion of said alpha subunit of a haptoglobin protein sequence, said portion being capable of reducing oxidation induced by oxygenized hemoglobin.

29. The antioxidant of claim 24, wherein said polypeptide is as set forth in SEQ ID NO:19.

30. The antioxidant of claim 24, wherein said polypeptide is as set forth in SEQ ID NO:20.

31. A pharmaceutical composition comprising, as an active ingredient, the antioxidant compound of any of claims 24-30, and a pharmaceutically acceptable carrier.

32. The pharmaceutical composition of claim 31, packaged and identified as containing an antioxidant.

33. The pharmaceutical composition of claim 31, packaged and identified for use in relieving oxidative stress.

34. The pharmaceutical composition of claim 31, packaged and identified for use in a pathology or habit associated with elevated oxidative stress.

35. The pharmaceutical composition of claim 31, wherein said pharmaceutically acceptable carrier comprises a solid support.

36. The pharmaceutical composition of claim 35, wherein said solid support is a stent.

37. The pharmaceutical composition of claim 31, wherein said pharmaceutically acceptable carrier is designed for slow release.

38. An antioxidant compound comprising a polypeptide having an amino acid sequence derived from a beta subunit of a haptoglobin protein sequence, said polypeptide being capable of reducing oxidation induced by oxygenized hemoglobin, the antioxidant compound being free of amino acid sequences derived from an alpha subunit of a haptoglobin protein.

39. The antioxidant of claim 38, wherein said haptoglobin protein sequence is of a mammal.

40. The antioxidant of claim 39, wherein said mammal is selected from the group consisting of human, mouse, rat and dog.

41. The antioxidant of claim 39, wherein said mammal is human.

42. The antioxidant of claim 38, wherein said polypeptide has an amino acid sequence derived from a portion of said beta subunit of a haptoglobin protein sequence, said portion being capable of reducing oxidation induced by oxygenized hemoglobin.

43. The antioxidant of claim 38, wherein said polypeptide is as set forth in SEQ ID NO:15.

44. The antioxidant of claim 38, wherein said polypeptide is as set forth in SEQ ID NO:16.

45. A pharmaceutical composition comprising, as an active ingredient, the antioxidant compound of any of claims 38-44, and a pharmaceutically acceptable carrier.

46. The pharmaceutical composition of claim 45, packaged and identified as containing an antioxidant.

47. The pharmaceutical composition of claim 45, packaged and identified for use in relieving oxidative stress.

48. The pharmaceutical composition of claim 45, packaged and identified for use in a pathology or habit associated with elevated oxidative stress.

49. The pharmaceutical composition of claim 45, wherein said pharmaceutically acceptable carrier comprises a solid support.

50. The pharmaceutical composition of claim 49, wherein said solid support is a stent.

51. The pharmaceutical composition of claim 45, wherein said pharmaceutically acceptable carrier is designed for slow release.

52. An antioxidant compound comprising a polypeptide having an amino acid sequence derived from a portion of a beta subunit of a haptoglobin protein sequence, said polypeptide being capable of reducing oxidation induced by oxygenized hemoglobin, said polypeptide being free of remaining portions of said beta subunit of a haptoglobin protein sequence.

53. The antioxidant of claim 52, wherein said haptoglobin protein sequence is of a mammal.

54. The antioxidant of claim 53, wherein said mammal is selected from the group consisting of human, mouse, rat and dog.

55. The antioxidant of claim 53, wherein said mammal is human.

56. The antioxidant of claim 52, wherein said polypeptide has an amino acid sequence derived from a consecutive portion of a beta subunit of a haptoglobin protein sequence, said portion being capable of reducing oxidation induced by oxygenized hemoglobin.

57. The antioxidant of claim 52, wherein said polypeptide is as set forth in SEQ ID NO:15.

58. The antioxidant of claim 52, wherein said polypeptide is as set forth in SEQ ID NO:16.

59. A pharmaceutical composition comprising, as an active ingredient, the antioxidant compound of any of claims 52-58, and a pharmaceutically acceptable carrier.

60. The pharmaceutical composition of claim 59, packaged and identified as containing an antioxidant.

61. The pharmaceutical composition of claim 59, packaged and identified for use in relieving oxidative stress.

62. The pharmaceutical composition of claim 59, packaged and identified for use in a pathology or habit associated with elevated oxidative stress.

63. The pharmaceutical composition of claim 59, wherein said pharmaceutically acceptable carrier comprises a solid support.

64. The pharmaceutical composition of claim 63, wherein said solid support is a stent.

65. The pharmaceutical composition of claim 59, wherein said pharmaceutically acceptable carrier is designed for slow release.

66. A method of reducing oxidative stress in a subject in need, the method comprising administering to the subject an antioxidant compound that comprises a polypeptide having an amino acid sequence derived from an alpha subunit of a haptoglobin protein sequence, said polypeptide being capable of reducing oxidation induced by oxygenized hemoglobin, the antioxidant compound being free of amino acid sequences derived from a beta subunit of a haptoglobin protein.

67. The method of claim 66, wherein said haptoglobin protein sequence is of a mammal.

68. The method of claim 67, wherein said mammal is selected from the group consisting of human, mouse, rat and dog.

69. The method of claim 67, wherein said mammal is human.

70. The method of claim 66, wherein said polypeptide has an amino acid sequence derived from a portion of an alpha subunit of a

haptoglobin protein sequence, said portion being capable of reducing oxidation induced by oxygenized hemoglobin.

71. The method of claim 66, wherein said polypeptide is as set forth in SEQ ID NO:19.

72. The method of claim 66, wherein said polypeptide is as set forth in SEQ ID NO:20.

73. The method of any of claims 66-72, wherein said polypeptide is administered as an active ingredient of a pharmaceutical composition, said pharmaceutical composition further comprises a pharmaceutically acceptable carrier.

74. The method of any of claims 66-72, wherein said oxidative stress is associated with a pathology or habit.

75. The method of claim 73, wherein said pharmaceutically acceptable carrier comprises a solid support.

76. The method of claim 75, wherein said solid support is a stent.

77. The method of claim 73, wherein said pharmaceutically acceptable carrier is designed for slow release.

78. A method of reducing oxidative stress in a subject in need, the method comprising administering to the subject an antioxidant compound that comprises a polypeptide having an amino acid sequence derived from a portion of an alpha subunit of a haptoglobin protein sequence, said polypeptide being capable of reducing oxidation induced by oxygenized hemoglobin, said polypeptide being free of remaining portions of said alpha subunit of said haptoglobin protein sequence.

79. The method of claim 78, wherein said haptoglobin protein sequence is of a mammal.

80. The method of claim 79, wherein said mammal is selected from the group consisting of human, mouse, rat and dog.

81. The method of claim 79, wherein said mammal is human.

82. The method of claim 78, wherein said polypeptide has an amino acid sequence derived from a consecutive portion of said alpha subunit of a haptoglobin protein sequence, said portion being capable of reducing oxidation induced by oxygenized hemoglobin.

83. The method of claim 78, wherein said polypeptide is as set forth in SEQ ID NO:19.

84. The method of claim 78, wherein said polypeptide is as set forth in SEQ ID NO:20.

85. The method of any of claims 78-84, wherein said polypeptide is administered as an active ingredient of a pharmaceutical composition, said pharmaceutical composition further comprises a pharmaceutically acceptable carrier.

86. The method of any of claims 78-84, wherein said oxidative stress is associated with a pathology or habit.

87. The method of claim 85, wherein said pharmaceutically acceptable carrier comprises a solid support.

88. The method of claim 87, wherein said solid support is a stent.

89. The method of claim 87, wherein said pharmaceutically acceptable carrier is designed for slow release.

90. A method of reducing oxidative stress in a subject in need, the method comprising administering to the subject an antioxidant compound that comprises a polypeptide having an amino acid sequence derived from a beta subunit of a haptoglobin protein sequence, said polypeptide being capable of reducing oxidation induced by oxygenized hemoglobin, the antioxidant compound being free of amino acid sequences derived from an alpha subunit of a haptoglobin protein.

91. The method of claim 90, wherein said haptoglobin protein sequence is of a mammal.

92. The method of claim 91, wherein said mammal is selected from the group consisting of human, mouse, rat and dog.

93. The method of claim 91, wherein said mammal is human.

94. The method of claim 90, wherein said polypeptide has an amino acid sequence derived from a portion of said beta subunit of a haptoglobin protein sequence, said portion being capable of reducing oxidation induced by oxygenized hemoglobin.

95. The method of claim 90, wherein said polypeptide is as set forth in SEQ ID NO:15.

96. The method of claim 90, wherein said polypeptide is as set forth in SEQ ID NO:16.

97. The method of any of claims 90-96, wherein said polypeptide is administered as an active ingredient of a pharmaceutical composition, said pharmaceutical composition further comprises a pharmaceutically acceptable carrier.

98. The method of any of claims 90-96, wherein said oxidative stress is associated with a pathology or habit.

99. The method of claim 97, wherein said pharmaceutically acceptable carrier comprises a solid support.

100. The method of claim 99, wherein said solid support is a stent.

101. The method of claim 99, wherein said pharmaceutically acceptable carrier is designed for slow release.

102. A method of reducing oxidative stress in a subject in need, the method comprising administering to the subject an antioxidant compound that comprises a polypeptide having an amino acid sequence derived from a

portion of a beta subunit of a haptoglobin protein sequence, said polypeptide being capable of reducing oxidation induced by oxygenized hemoglobin, said polypeptide being free of remaining portions of said beta subunit of a haptoglobin protein sequence.

103. The method of claim 102, wherein said haptoglobin protein sequence is of a mammal.

104. The method of claim 103, wherein said mammal is selected from the group consisting of human, mouse, rat and dog.

105. The method of claim 103, wherein said mammal is human.

106. The method of claim 102, wherein said polypeptide has an amino acid sequence derived from a consecutive portion of a beta subunit of a haptoglobin protein sequence, said portion being capable of reducing oxidation induced by oxygenized hemoglobin.

107. The method of claim 102, wherein said polypeptide is as set forth in SEQ ID NO:15.

108. The method of claim 102, wherein said polypeptide is as set forth in SEQ ID NO:16.

109. The method of any of claims 102-108, wherein said polypeptide is administered as an active ingredient of a pharmaceutical composition, said pharmaceutical composition further comprises a pharmaceutically acceptable carrier.

110. The method of any of claims 102-108, wherein said oxidative stress is associated with a pathology or habit.

111. The method of claim 109, wherein said pharmaceutically acceptable carrier comprises a solid support.

112. The method of claim 111, wherein said solid support is a stent.

113. The method of claim 111, wherein said pharmaceutically acceptable carrier is designed for slow release.

114. A nucleic acid construct comprising:

a first polynucleotide encoding a polypeptide having an amino acid sequence derived from an alpha subunit of a haptoglobin protein sequence, said polypeptide being capable of reducing oxidation induced by oxygenized hemoglobin, the polynucleotide being free of amino acid sequences derived from a beta subunit of a haptoglobin protein; and

a second polynucleotide harboring a promoter operably linked to said first polynucleotide.

115. The nucleic acid construct of claim 114, wherein said haptoglobin protein sequence is of a mammal.

116. The nucleic acid construct of claim 115, wherein said mammal is selected from the group consisting of human, , mouse and rat.

117. The nucleic acid construct of claim 115, wherein said mammal is human.

118. The nucleic acid construct of claim 114, wherein said polypeptide has an amino acid sequence derived from a portion of an alpha subunit of a haptoglobin protein sequence, said portion being capable of reducing oxidation induced by oxygenized hemoglobin.

119. The nucleic acid construct of claim 114, wherein said polypeptide is as set forth in SEQ ID NO:19.

120. The nucleic acid construct of claim 114, wherein said first polynucleotide is as set forth in SEQ ID NO:13.

121. The nucleic acid construct of claim 114, wherein said polypeptide is as set forth in SEQ ID NO:20.

122. The nucleic acid construct of claim 114, wherein said first polynucleotide is as set forth in SEQ ID NO:14.

123. A pharmaceutical composition comprising, as an active ingredient, the nucleic acid construct of claims 114-121, and a pharmaceutically acceptable carrier.

124. The pharmaceutical composition of claim 123, packaged and identified for use in relieving oxidative stress.

125. The pharmaceutical composition of claim 123, packaged and identified for use in a pathology or habit associated with elevated oxidative stress.

126. A nucleic acid construct comprising:

a first polynucleotide encoding a polypeptide having an amino acid sequence derived from a portion of an alpha subunit of a haptoglobin protein sequence, said polypeptide being capable of reducing oxidation induced by oxygenized hemoglobin, said polypeptide being free of remaining portions of said alpha subunit of said haptoglobin protein sequence; and

a second polynucleotide harboring a promoter operably linked to said first polynucleotide.

127. The nucleic acid construct of claim 126, wherein said haptoglobin protein sequence is of a mammal.

128. The nucleic acid construct of claim 127, wherein said mammal is selected from the group consisting of human, , mouse and rat.

129. The nucleic acid construct of claim 127, wherein said mammal is human.

130. The nucleic acid construct of claim 126, wherein said polypeptide has an amino acid sequence derived from a consecutive portion of said alpha subunit of a haptoglobin protein sequence, said portion being capable of reducing oxidation induced by oxygenized hemoglobin.

131. The nucleic acid construct of claim 126, wherein said polypeptide is as set forth in SEQ ID NO:19.

132. The nucleic acid construct of claim 126, wherein said first polynucleotide is as set forth in SEQ ID NO:13.

133. The nucleic acid construct of claim 126, wherein said polypeptide is as set forth in SEQ ID NO:20.

134. The nucleic acid construct of claim 126, wherein said first polynucleotide is as set forth in SEQ ID NO:14.

135. A pharmaceutical composition comprising, as an active ingredient, the nucleic acid construct of any of claims 126-133, and a pharmaceutically acceptable carrier.

136. The pharmaceutical composition of claim 135, packaged and identified for use in relieving oxidative stress.

137. The pharmaceutical composition of claim 135, packaged and identified for use in a pathology or habit associated with elevated oxidative stress.

138. A nucleic acid construct comprising:

a first polynucleotide encoding a polypeptide having an amino acid sequence derived from a beta subunit of a haptoglobin protein sequence, said polypeptide being capable of reducing oxidation induced by oxygenized hemoglobin, the antioxidant compound being free of amino acid sequences derived from an alpha subunit of a haptoglobin protein; and

a second polynucleotide harboring a promoter operably linked to said first polynucleotide.

139. The nucleic acid construct of claim 138, wherein said haptoglobin protein sequence is of a mammal.

140. The nucleic acid construct of claim 139, wherein said mammal is selected from the group consisting of human, , mouse and rat.

141. The nucleic acid construct of claim 139, wherein said mammal is human.

142. The nucleic acid construct of claim 138, wherein said polypeptide has an amino acid sequence derived from a portion of said beta subunit of a haptoglobin protein sequence, said portion being capable of reducing oxidation induced by oxygenized hemoglobin.

143. The nucleic acid construct of claim 138, wherein said polypeptide is as set forth in SEQ ID NO:15.

144. The nucleic acid construct of claim 138, wherein said first polynucleotide is as set forth in SEQ ID NO:9.

145. The nucleic acid construct of claim 138, wherein said polypeptide is as set forth in SEQ ID NO:16.

146. The nucleic acid construct of claim 138, wherein said first polynucleotide is as set forth in SEQ ID NO:10.

147. A pharmaceutical composition comprising, as an active ingredient, the nucleic acid construct of any of claims 138-145, and a pharmaceutically acceptable carrier.

148. The pharmaceutical composition of claim 147, packaged and identified for use in relieving oxidative stress.

149. The pharmaceutical composition of claim 147, packaged and identified for use in a pathology or habit associated with elevated oxidative stress.

150. A nucleic acid construct comprising:

a first polynucleotide encoding a polypeptide having an amino acid sequence derived from a portion of a beta subunit of a haptoglobin protein sequence, said polypeptide being capable of reducing oxidation induced by oxygenized hemoglobin, said polypeptide being free of remaining portions of said beta subunit of a haptoglobin protein sequence; and

a second polynucleotide harboring a promoter operably linked to said first polynucleotide.

151. The nucleic acid construct of claim 150, wherein said haptoglobin protein sequence is of a mammal.

152. The nucleic acid construct of claim 151, wherein said mammal is selected from the group consisting of human, , mouse and rat.

153. The nucleic acid construct of claim 151, wherein said mammal is human.

154. The nucleic acid construct of claim 150, wherein said polypeptide has an amino acid sequence derived from a consecutive portion of a beta subunit of a haptoglobin protein sequence, said portion being capable of reducing oxidation induced by oxygenized hemoglobin.

155. The nucleic acid construct of claim 150, wherein said polypeptide is as set forth in SEQ ID NO:15.

156. The nucleic acid construct of claim 150, wherein said first polynucleotide is as set forth in SEQ ID NO:9.

157. The nucleic acid construct of claim 150, wherein said polypeptide is as set forth in SEQ ID NO:16.

158. The nucleic acid construct of claim 150, wherein said first polynucleotide is as set forth in SEQ ID NO:10.

159. A pharmaceutical composition comprising, as an active ingredient, the nucleic acid construct of any of claims 150-157, and a pharmaceutically acceptable carrier.

160. The pharmaceutical composition of claim 159, packaged and identified for use in relieving oxidative stress.

161. The pharmaceutical composition of claim 159, packaged and identified for use in a pathology or habit associated with elevated oxidative stress.

162. A method of reducing oxidative stress in a subject in need thereof, the method comprising administering to the subject a nucleic acid construct that comprises:

a first polynucleotide encoding a polypeptide having an amino acid sequence derived from an alpha subunit of a haptoglobin protein sequence, said polypeptide being capable of reducing oxidation induced by oxygenized hemoglobin, the polynucleotide being free of amino acid sequences derived from a beta subunit of a haptoglobin protein; and

a second polynucleotide harboring a promoter operably linked to said first polynucleotide, so as to direct expression of said polypeptide by at least one cell type of the subject.

163. The method of claim 162, wherein said haptoglobin protein sequence is of a mammal.

164. The method of claim 163, wherein said mammal is selected from the group consisting of human, , mouse and rat.

165. The method of claim 163, wherein said mammal is human.

166. The method of claim 162, wherein said polypeptide has an amino acid sequence derived from a portion of an alpha subunit of a haptoglobin protein sequence, said portion being capable of reducing oxidation induced by oxygenized hemoglobin.

167. The method of claim 162, wherein said polypeptide is as set forth in SEQ ID NO:19.

168. The method of claim 162, wherein said first polynucleotide is as set forth in SEQ ID NO:13.

169. The method of claim 162, wherein said polypeptide is as set forth in SEQ ID NO:20.

170. The method of claim 162, wherein said first polynucleotide is as set forth in SEQ ID NO:14.

171. A method of reducing oxidative stress in a subject in need thereof, the method comprising administering to the subject a nucleic acid construct that comprises:

a first polynucleotide encoding a polypeptide having an amino acid sequence derived from a portion of an alpha subunit of a haptoglobin protein sequence, said polypeptide being capable of reducing oxidation induced by oxygenized hemoglobin, said polypeptide being free of remaining portions of said alpha subunit of said haptoglobin protein sequence; and

a second polynucleotide harboring a promoter operably linked to said first polynucleotide, so as to direct expression of said polypeptide by at least one cell type of the subject.

172. The method of claim 171, wherein said haptoglobin protein sequence is of a mammal.

173. The method of claim 172, wherein said mammal is selected from the group consisting of human, , mouse and rat.

174. The method of claim 172, wherein said mammal is human.

175. The method of claim 171, wherein said polypeptide has an amino acid sequence derived from a consecutive portion of said alpha subunit of a haptoglobin protein sequence, said portion being capable of reducing oxidation induced by oxygenized hemoglobin.

176. The method of claim 171, wherein said polypeptide is as set forth in SEQ ID NO:19.

177. The method of claim 171, wherein said first polynucleotide is as set forth in SEQ ID NO:13.

178. The method of claim 171, wherein said polypeptide is as set forth in SEQ ID NO:20.

179. The method of claim 171, wherein said first polynucleotide is as set forth in SEQ ID NO:14.

180. A method of reducing oxidative stress in a subject in need thereof, the method comprising administering to the subject a nucleic acid construct that comprises:

a first polynucleotide encoding a polypeptide having an amino acid sequence derived from a beta subunit of a haptoglobin protein sequence, said polypeptide being capable of reducing oxidation induced by oxygenized hemoglobin, the antioxidant compound being free of amino acid sequences derived from an alpha subunit of a haptoglobin protein; and

a second polynucleotide harboring a promoter operably linked to said first polynucleotide, so as to direct expression of said polypeptide by at least one cell type of the subject.

181. The method of claim 180, wherein said haptoglobin protein sequence is of a mammal.

182. The method of claim 181, wherein said mammal is selected from the group consisting of human, , mouse and rat.

183. The method of claim 181, wherein said mammal is human.

184. The method of claim 180, wherein said polypeptide has an amino acid sequence derived from a portion of said beta subunit of a haptoglobin protein sequence, said portion being capable of reducing oxidation induced by oxygenized hemoglobin.

185. The method of claim 180, wherein said polypeptide is as set forth in SEQ ID NO:15.

186. The method of claim 180, wherein said first polynucleotide is as set forth in SEQ ID NO:9.

187. The method of claim 180, wherein said polypeptide is as set forth in SEQ ID NO:16.

188. The method of claim 180, wherein said first polynucleotide is as set forth in SEQ ID NO:10.

189. A method of reducing oxidative stress in a subject in need thereof, the method comprising administering to the subject a nucleic acid construct that comprises:

a first polynucleotide encoding a polypeptide having an amino acid sequence derived from a portion of a beta subunit of a haptoglobin protein sequence, said polypeptide being capable of reducing oxidation induced by oxygenized hemoglobin, said polypeptide being free of remaining portions of said beta subunit of a haptoglobin protein sequence; and

a second polynucleotide harboring a promoter operably linked to said first polynucleotide, so as to direct expression of said polypeptide by at least one cell type of the subject.

190. The method of claim 189, wherein said haptoglobin protein sequence is of a mammal.

191. The method of claim 190, wherein said mammal is selected from the group consisting of human, , mouse and rat.

192. The method of claim 190, wherein said mammal is human.

193. The method of claim 189, wherein said polypeptide has an amino acid sequence derived from a consecutive portion of a beta subunit of a haptoglobin protein sequence, said portion being capable of reducing oxidation induced by oxygenized hemoglobin.

194. The method of claim 189, wherein said polypeptide is as set forth in SEQ ID NO:15.

195. The method of claim 189, wherein said first polynucleotide is as set forth in SEQ ID NO:9.

196. The method of claim 189, wherein said polypeptide is as set forth in SEQ ID NO:16.

197. The method of claim 189, wherein said first polynucleotide is as set forth in SEQ ID NO:10.